

PHENACASPIS HETEROPHYLLAE COOLEY IN NEW JERSEY¹

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On September 2, 1956, a scale insect later identified (U. S. D. A. Insect Identification Number 56-12412) as *Phenacaspis heterophylla* Cooley was found on a five-foot sapling of pitch pine (*Pinus rigida* Mill.) located near the northern boundary of the Lebanon State Forest, Burlington County, New Jersey (74°30'-13" W. Long., 39°54'32" N. Lat.). The presence in New Jersey of this insect has not been previously reported although reports of its occurrence in seven eastern states, including the neighboring states of New York (Leonard, 1928) and Pennsylvania (Morrison, 1956),² have been recorded (Table 1). Severe infestation of this sapling occurred only on the leaves of one horizontal branch 3 feet from the ground. There was no evidence of the presence of the insect on any other branch of the sapling or on any other tree in the area.

The following discussion traces the reports of host trees with their locations and also the evolution of the revision of the nomenclatural status of the insect.

Cooley (1897) who originally described the pine needle scale and named it *Chionaspis pinifoliae heterophyllae* n. var. [Cooley], distinguished the species *pinifoliae* from the variety *heterophyllae* by use of the characters of larger size and more prominent rounded lobes in the female of the species as contrasted to smaller body size, less conspicuous lobes and . . . "the presence of the median notch" in the female of the variety. *C. pinnifoliae heterophyllae* was first collected in Florida upon Cuban pine (*Pinus heterophylla* (Ell.) Sudw.), hence the variety name. Berlese (1898) reviewed the original naming and listed *Chionaspis Pinifoliae* var. *heterophyllae* n. var. as the valid name.

¹ Paper of the Journal Series New Jersey Agricultural Experiment Station, Rutgers University, the State University of New Jersey, Department of Forestry, New Brunswick.

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Language barriers produced an amusing incident in Berlese's Italian translation of portions of Cooley's 1897 paper. It seems that the former was confused by Cooley's B. S. degree for "By R. A. Cooley, B. S., Amherst, Mass." was translated to read "Cooley R. A. and Amherst S." Apparently Berlese knew little of dear old Amherst, Mass., for he assumed that the B was an English ampersand and that S. Amherst was the junior author.

A year later Cooley (1899) added some new data pertinent to the insect when he listed the host species as *P. heterophylla*, Florida; *P. sylvestris* L., Providence, Rhode Island; and *P. mitis*, Michx., St. George, Florida. He indicated that the insects are usually found at the leaf bases and sometimes on the bark of twigs of *P. heterophylla*. The scale insect was listed by Leonard (1928) as being found on pitch pine and Japanese red pine (*P. densiflora* Sieb. & Zucc.) at Glen Cove and Southold, Long Island, New York.

Ferris (1937) suggested a major revision of the insect's name. It was his opinion that *Phenacaspis pinifoliae* should be referred from the genus *Chionaspis* because of its unmistakable distinction and that *Phenacaspis pinifoliae heterophyllae* was sufficiently distinct to deserve specific recognition. Five years later Ferris (1942) stated that *P. heterophyllae* (Cooley) (officially using the current name which he offered in his 1937 paper) is normally found upon coniferous leaves but can occur on small branches. In addition to hosts previously mentioned, he listed shortleaf pine (*P. echinata* Mill.) and slash pine (*P. caribaea* Morelet) both from Mississippi. Ferris also described the normal range of the insect as the southeastern United States and perhaps the Caribbean area.

Morrison (1956) indicated that two unpublished reports of occurrence of the insect on pitch pine in Pennsylvania and North Carolina are on file with the Entomology Research Branch, Agricultural Research Service, U. S. D. A.

Finally, Ferris (1956) summarized the revision of nomenclature of *Chionaspis pinifolii* [pinifoliae] *heterophyllae* Cooley to *Phenacaspis heterophyllae* (Cooley) crediting the change to Ferris (1942). Noted also in his remarks are the host species *P. caribbeana* [caribaea] and an undetermined pine, both from Mississippi. Table 1 lists the recorded hosts, states and authors.

Based on recorded information the genus *Pinus* is apparently a lone host to the insect and of the eighty to ninety recognized species of *Pinus* (Harlow and Harrar, 1950) only six thus far have been reported as infested.

In conclusion, it is apparent that within the last 50 years nomenclature for both the insect and its host has undergone considerable revision and several inadvertent misspellings. The sub-

TABLE 1

HOST TREES OF *Phenacaspis heterophyllae* WITH THEIR LOCATIONS BY STATE.
NAMES IN PARENTHESES REPRESENT CURRENT NOMENCLATURE
ACCORDING TO LITTLE (1953).

<i>Species</i>	<i>State</i>	<i>Citation</i>
<i>Pinus caribaea</i> (<i>P. elliottii</i> Engelm.)	Miss.	Ferris, 1937
<i>P. densiflora</i>	N. Y.	Leonard, 1928
<i>P. echinata</i>	Miss.	Ferris, 1937
<i>P. heterophyllae</i> (<i>P. elliottii</i>)	Fla.	Cooley, 1897
<i>P. mitis</i> (<i>P. echinata</i>)	Fla.	Cooley, 1899
<i>P. rigida</i>	N. Y.	Leonard, 1928
	Pa., N. C.	Morrison, 1956
<i>P. sylvestris</i>	R. I.	Cooley, 1899

stitution of the species name *pinifolii* for *pinifoliae* (Ferris, 1956) is probably an editorial or typographical error, although Ferris (1942) stated that *pinifolii* was a misspelling.

It is also evident that *P. heterophyllae* is a rather rare insect in the northeastern United States and at the present time is more important as a matter of entomological record than as a forest tree pest.

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Russia and Italy. Mr. Alexieff outlined some authoritative program notes on the well known "Flight of the Bumblebee" and concluded with some admittedly apocryphal, but delightful, revelations concerning the therapeutic values ascribed to dancing of the Tarantella.

The meeting adjourned at 9:45 P.M.

EDWARD S. HODGSON, *Secretary*

MEETING OF APRIL 17, 1956

A regular meeting of the Society was held at the American Museum of Natural History, President Vishniac in the chair. The appointment of member Frank A. Soraci as Director of the Division of Plant Industry of the New Jersey Department of Agriculture was announced, and it was agreed that a letter be sent to Mr. Soraci expressing the congratulations of the Society.

The speaker of the evening was Dr. Joseph Copeland of the City College of New York, who discussed "Insectivorous Plants." Dr. Copeland noted that insectivorous plants are found in nitrogen-deficient habitats, usually in acid bogs or as epiphytes. Accordingly, the secretions of the plants contain proteinases rather than carbohydrases. Dr. Copeland described the insectivorous activities of various pitcher plants, bladder worts, butterworts, sundews and Venus-fly-traps, illustrating each with many kodachromes. The manner of conduction of the excitation from the trigger mechanism to the closing mechanism of the Venus fly trap is not known, nor is the physiological mechanism for the summation of the initial triggering stimuli which must come from the bending of at least two sensory hairs. After the talk, Dr. Copeland exhibited mounted specimens of many insectivorous plants, and a lively discussion was precipitated, during which mention was made of the larva of the Pine Barrens moth which bores holes into and drains pitcher plants preparatory to eating them, and the fact that it was an early New York lepidopterist, Henry Edwards, who described the activities of the Western pitcher plant.

The meeting was adjourned at 9:30 P.M.

EDWARD S. HODGSON, *Secretary*

MEETING OF MAY 15, 1956

A regular meeting of the Society was held at the American Museum of Natural History, Dr. Vishniac presiding.

The speaker of the evening was Dr. Thomas Smyth of Pennsylvania State

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